



This manual was printed with soy based ink.

Cannot hear the
remote control's
operation tone.

The operation tone may be off (⇄ page 6).

Caution

Batteries

- Do not peel off the covering on batteries and do not use if the covering has been peeled off.
- Align the poles + and - correctly when inserting the batteries.
- Do not mix different types of batteries or old and new batteries.
- Remove the batteries if you do not intend to use the unit for a long time.
- Do not throw into fire, short-circuit, disassemble, or subject to excessive heat.
- Do not attempt to recharge dry cell batteries.
- When carrying batteries in a pocket or bag, ensure no metal objects such as necklaces are placed together with them. Contact with metal may cause short-circuiting which can cause a fire. For safety, carry the rechargeable batteries in the battery carrying case.

A nickel cadmium battery that is recyclable powers the product you have purchased. At the end of its useful life, under various state and local laws, it is illegal to dispose of this battery into your municipal waste stream. Please call 1-800-8-BATTERY for information on how to recycle this battery.

CDs

- Do not use irregularly shaped CDs.
- Do not use non-specification discs.
- Do not use CDs printed with label printers available on the market.
- Do not use CDs with labels and stickers that are coming off or with adhesive exuding from under labels and stickers.

Listening

Do not play your headphones or earphones at a high volume. Hearing experts advise against continuous extended play. If you experience a ringing in your ears, reduce volume or discontinue use. Do not use while operating a motorized vehicle. It may create a traffic hazard and is illegal in many areas. You should use extreme caution or temporarily discontinue use in potentially hazardous situations. Even if your headphones or earphones are the open-air type designed to let you hear outside sounds, don't turn up the volume so high that you can't hear what's around you. Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts. To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Leave it there.

Allergies

Discontinue use if you experience discomfort with the earphones or any other parts that directly contact your skin. Continued use may cause rashes or other allergic reactions.

Specifications

Audio (CD-DA)

No. of channels: 2 (left and right, stereo)
Frequency response: 20 to 20,000 Hz (+0.5 dB to -10 dB)
DA converter: 1 bit, MASH
Headphone output level: RMS max. 8 mW+8 mW/16 Ω (adjustable)

Pickup

Light source: Semiconductor laser
Wavelength: 780 nm

MP3

Supported bit-rates: 32 kbps to 320 kbps (128 kbps is recommended)
Supported sampling frequency: 48 kHz/44.1 kHz/32 kHz
Maximum number of items (sum of albums and tracks): 999
Maximum album levels: 100

General

Power supply: DC input (via included AC adaptor): DC 4.5 V
AC adaptor input: AC 120 V, 60 Hz
Power consumption: Using AC adaptor (MP3/CD-DA): 2.6 W/2.6 W
Recharging: 5.0 W

Power consumption in standby mode:
2.2W

Play time: [Approximate operating time in hours (playing MP3 at the recommended bitrate of 128 kbps, with HOLD on and EQ canceled, at 25 °C (77 °F) on a flat, stable surface)]

Batteries used	MP3 disc	CD-DA disc
2 optional alkaline batteries	65	30
2 supplied rechargeable batteries	15	10
2 supplied rechargeable and 2 alkaline batteries	80	42

Recharging time: 2 to 3 hours

- The play time may be less depending on the operating conditions.
- Play time will be considerably reduced when playing CD-RW.

Operational temperature range: 0 °C-40 °C (32 °F-104 °F)
Rechargeable temperature range: 5 °C-40 °C (41 °F-104 °F)
Dimensions (W×H×D): 134.4×16.9×133.8 mm (5½"×⅓"×5½")
Mass: 204 g (7.2 oz.) (with batteries)
157 g (5.5 oz.) (without batteries)

Note:
Specifications are subject to change without notice.
Mass and dimensions are approximate.

IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit. Follow the safety instructions on the unit and the safety precautions listed below. Keep these operating instructions handy for future reference.

Safety

- Power source**—Connect the unit to a power source of the type described in these instructions or as marked on the unit.
- Polarization**—The unit is equipped with a polarized power plug where one blade is wider than the other. This safety feature ensures that the plug fits into your household AC outlet only one way. If the plug doesn't fit one way, try reversing it. If the plug still doesn't fit, contact an electrician to replace the obsolete outlet. Do not attempt to defeat the safety purpose of the plug.
- Power cord protection**—Route the AC power supply cord so that it will not be walked on or pinched by items placed on or against it. Never take hold of the plug or cord with wet hands. Always grasp the plug body firmly when connecting and disconnecting it.
- Overloading**—When connecting the AC power supply cord, be careful not to overload the household AC outlet, extension cord, or outlet from any other device as this can result in fire or electric shock.
- Nonuse periods**—Turn the unit off when it is not in use. Unplug the unit from the household AC outlet if it is not to be used for a long time. Unplug the unit during lightning storms. Leaving the unit connected to a household AC outlet for extended periods can cause battery fluid leakage.
- Attachments and accessories**—Use only the attachments and accessories recommended in these operating instructions.

Installation

Placement

- Foreign material**—Ensure objects and liquids do not get into the unit. Avoid exposing the unit to excessive smoke, dust, mechanical vibration, and shock.
- Magnetism**—Situate the unit away from equipment and devices that generate strong magnetic fields.
- Stacking**—Do not place anything on top of this unit.
- Wall and ceiling mounting**—Do not mount the unit on walls or ceilings unless specified in the instructions.

Environment

- Water and moisture**—Do not use the unit near water, such as near a bathtub or swimming pool. Avoid damp basements.
- Heat**—Situate the unit away from heat sources, such as radiators. Do not leave it in an automobile exposed to direct sunlight with the doors and windows closed as this may deform the cabinet.
- Do not situate where temperatures fall below 5 °C (41 °F) or rise above 35 °C (95 °F).

Maintenance

Unplug the unit from the household AC outlet before cleaning.
Clean with a damp cloth.
Do not use abrasive pads, scouring powders, or solvents.

Service

- Damage requiring service**—The unit should be serviced by qualified service personnel if:
 - The AC power supply cord or AC adaptor has been damaged; or
 - Objects or liquids have gotten into the unit; or
 - The unit has been exposed to rain; or
 - The unit does not operate normally or exhibits a marked change in performance; or
 - The unit has been dropped or the cabinet damaged.
- Servicing**—Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.
- Replacement parts**—When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.
- Safety check**—After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

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Panasonic Portable Audio Products Limited Warranty

Limited Warranty Coverage

If your product does not work properly because of a defect in materials or workmanship, Panasonic Consumer Electronics Company or Panasonic Sales Company (collectively referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

Product or Part Name	Parts	Labor
All Portable Audio Products except item listed below	One (1) Year	One (1) Year
Rechargeable batteries (in exchange for defective item)	Ten (10) Days	Not applicable

During the "Labor" warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty excludes both parts and labor for batteries, antennas, and cosmetic parts (cabinet). This warranty only applies to products purchased and serviced in the United States or Puerto Rico. This warranty is extended only to the original purchaser of a new product which was not sold "as is".

Mail-In Service

For assistance in the continental U.S.A. in obtaining repairs please ship the product to:

Panasonic Services Company
Customer Servicercenter
Suite B
4900 George McVay Drive
McAllen, TX 78503

For assistance in Puerto Rico call Panasonic Sales Company (787)-750-4300 or fax (787)-768-2910. When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone number where you can be reached.

Customer Services Directory

For Product Information, d6 2lserv3a9 a.17 Eate Repaest, od, there Tf0 -1.Denast l

Main unit

Check the packing carton for these accessories.
Use numbers indicated when asking for replacement parts.

- **1 Wired remote control:** N2QCB000025
- **1 AC adaptor:** RFEA415C-1S
- **1 External battery case:** RFA1821-H
- **2 Ni-Cd rechargeable batteries***
- **1 Battery carrying case:** RFC0062-X
- **1 pair of stereo earphones:** LOBAB0000170

(Only for U.S.A.) To order accessories contact 1-800-332-5368 or web site (<http://www.panasonic.com>).

**Recommended replacement: Nickel-metal hydride rechargeable batteries (HHF-AZ01)*



Other Play Methods

Program Play

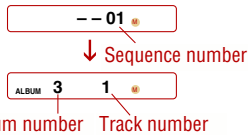
1
Select the tracks while stopped.
You can skip albums when programming MP3 tracks (⇔ below).

2
Press [•MEMO/—DISP] to register.

3
Repeat steps 1 and 2 to register up to 20 tracks.

4
Start play.

When Playing MP3

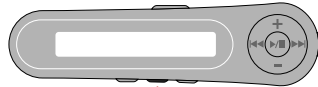


■To confirm the contents of the program
Press [•MEMO/—DISP] while the disc is playing.

■To delete the entire program
Press [▶/■].

Play modes

Each time you press [MODE]



1 → 2 → RND → 3 → 4 → No display (canceled)
One track repeat All track repeat Random Random repeat

■You cannot select “RND” while playing MP3.
■You cannot skip back to other track during random play.

Anti-Skip System

This system reduces the skipping caused by vibration to a minimum. You can change the anti-skip memory time for CD-DA to improve sound quality.

Each time you press and hold [MODE]

POS 2 ← → POS 1

Better sound quality, 10-second anti-skip memory Normal sound quality, 45-second anti-skip memory

■You cannot change the memory time for MP3. It is a maximum of 100 seconds for data recorded at 128 kbps.

Other remote control functions

■Turning the operation tone off

Press and hold [EQ] until “BP OFF” appears. (“BP ON”, tone on)

■Adjusting the contrast of the display

1. Set the main unit to HOLD while stopped.
2. While pressing and holding [▶/■], press [+] (darker) or [–] (lighter) on the unit.
Adjust if unit parts of the display are too dark or if the display is too light to read.

Changing the sound quality

Each time you press [EQ]



S-XBS → TRAIN → LIVE
Boosts the bass Softens and reduces the audible level of sound Concert hall-like sound
No display (canceled)

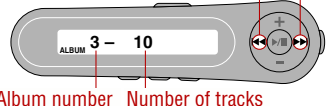
■The effect may differ between different kinds of music.

Playing MP3

Starting play from an album (Album skip)

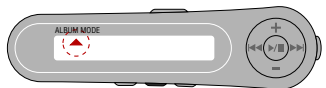
Press and hold until the album you want appears.

Main unit



Playing only the tracks in a selected album (Album mode)

Each time you press and hold [MODE]

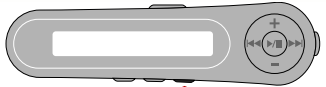


Album mode No display (canceled)

■You can select another album with album skip.
■You cannot turn album mode on during program play.

Changing the display

Each time you press and hold [•MEMO/—DISP]



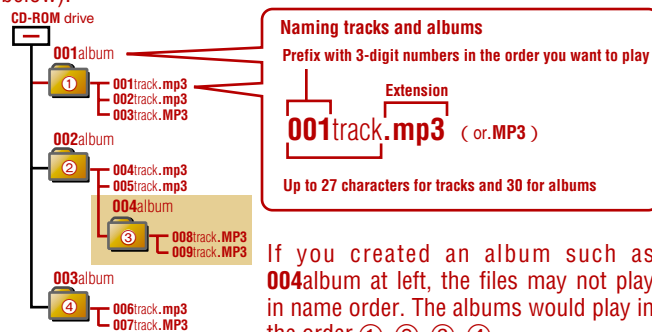
Album → Track → ID3 → ID3 track → Track number and elapsed play time
title title album title title

■The unit displays up to 30 characters each for titles.
■“Id3” appears before ID3 titles. “-♪-” appears instead if ID3 titles haven't been entered.
■“_” is displayed in place of characters this unit cannot display.

This unit can play MP3, a method of compressing audio without overtly hurting audio quality.

■When creating MP3 files to play on this unit

•Disc formats: ISO9660 level 1 and level 2 (except for extended formats)
•It is better not to create folders (album) within folders (004album below).



■Limitations on MP3

•This unit is only compatible with version 1.0 and 1.1 ID3 tags.
•This unit is compatible with multi-session but if there are a lot of sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.
•This unit cannot play files recorded using packet write.
•If the disc includes both MP3 and normal audio data (CD-DA), the unit plays the type recorded in the inner part of the disc.
If the disc includes both MP3 and other types of audio data (e.g. WMA or WAV), the unit plays only the MP3.
•Depending on how you create MP3 files, they may not play in the order you numbered them or may not play at all.